

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Aaron Waxler on August 7, 2008.

2. The application has been amended as follows:

1. (Currently Amended) A time-triggered communication system which comprises:

at least a first and second channels and at least a first and a second node, one of which is selected as a cold-start node type that to perform a cold-start operation of the communication system responsive to a start signal received via the channels;

a first communication controller assigned to the first channel and connected to the first node and a second communication controller assigned to the second channel and connected to the second node, the first and the second communication controller each including a local clock, said local clocks being independent of each other;

the controller of the selected cold start node must listen to both channels and transmit simultaneously data for the cold start to both channels, and wherein only a single control logic within a communication controller for carrying out the cold start is available for both channels;

an interface for the interchannel communication is arranged between the first communication controller and the second communication controller, wherein the first and second communication controllers each generate and send a status signal to the other one of the communication controllers via the interface, each of the first and second communication controllers receiving and storing the status signal sent by the other one of the communication controllers, and

the first and second communication controllers perform the cold-start operation only if both of the communication controllers are in a ready status as indicated by the status signals.

2. (Previously amended) A time-triggered communication system as claimed in claim 1, characterized in that each of the two local clocks is pulsed by another oscillator, wherein the first communication controller is assigned only to the first channel and the second communication controller is assigned only to the second channel.

3. (Previously amended) A time-triggered communication system as claimed in claim 1, characterized in that both of the communication controllers generate a start-up timer.

4. (Previously amended) A time-triggered communication system as claimed in claim 1, wherein the status signals are one of a ready signal and an abort signal, and wherein the communication system is a dual-channel system that includes only the first and second channels, with identical data being transferred on both of the channels.

5. (Previously amended) A time-triggered communication system as claimed in claim 1, characterized in that both of the communication controllers are arranged on a single chip, and the interface is also integrated on this chip

6. (Previously amended) A time-triggered communication system as claimed in claim 1, characterized in that both of the communication controllers are arranged on a chip of their own, and the interface is externally arranged to the chips.

7. (Currently Amended) A method of carrying out a synchronous cold start in a time-triggered communication system that includes at least a first and second channels and at least a first and second nodes, of one of which is selected as a cold-start node type that to perform a cold start operation of the communication system responsive to a start signal received via the channels, the nodes each including a communication controller, wherein the controller of the selected cold start node must listen to both channels and transmit simultaneously data for the cold start to both channels, and wherein only a single control logic within a communication controller for carrying out the cold start is available for both channels, the method comprising the steps of generating a status signal in each of the communication controllers in dependence on parameters, transmitting each of the status signals to the other one of the communication controllers via an interface comparing, by each of the communication controllers, their own state with that of the other communication controller, and performing the cold-start operation only if, and so long as, both of the communication controllers are in a ready state as indicated by the status signals.

8. (Previously amended) A method as claimed in claim 7, characterized in that a ready signal is generated as the status signal if all conditions for performing the cold start operation exist for the cold start node in question, and an abort signal is generated as the status signal if a fault occurs at the relevant cold start node.

9. (Previously amended) A method as claimed in claim 7, characterized in that the states of the communication controllers are compared continuously or at least at time intervals, and wherein the communication controller of the first node is assigned only to the first channel and the communication controller of the second node is assigned only to the second channel.

10. (Previously amended) The use of a time-triggered communication system as claimed in claim 1, in a motor vehicle control.

11. (Currently Amended) A device for a time-triggered communication system that includes at least a first and second channels and at least ~~two nodes~~ a first and second node, one of which is selected as a cold-start node type that to perform a cold start operation of the communication system responsive to a start signal received via the channels, the device comprising:

a first communication controller with an independent local clock which is assigned to the first channel; a second communication controller with an independent local clock which is assigned to the second channel;

wherein the controller of the selected cold start node must listen to both channels and transmit simultaneously data for the cold start to both channels, and wherein only a single control logic within a communication controller for carrying out the cold start is available for both channels

an interface (1a, 1b) for the interchannel communication, arranged between the two communication controllers, wherein the first and second communication controllers each generate, and send a status signal to the other one of the communication controllers via the interface, each of the first and second communication controllers receiving and storing the status signal sent by the other one of the communication controllers, and wherein

both the first and second communication controllers perform the cold-start operation only if both of the communication controllers are in a ready status as indicated by the status signals.

12. (Previously amended) A device as claimed in claim 11, characterized in that each of the two independent local clocks is pulsed by oscillator, wherein the first communication controller is assigned only to the first channel and the second communication controller is assigned only to the second channel.

13. (Previously amended) A device as claimed in claim 11, characterized in that its the two communication controllers each generate a start-up timer.

14. (Previously amended) A device as claimed in claim 11, wherein the status signals are one of a ready signal or and an abort signal.

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15. (Previously amended) A device as claimed in claim 11, characterized in that it comprises a chip (11) on which both of the communication controllers (-27~ are arranged on a chip and on which the interface (-tt9-) is integrated.

16. (Previously amended) A device as claimed in claim 11, characterized in that each of the communication controllers is arranged on a chip of its own and the interface is arranged externally thereto.

17. (Previously amended) A device as claimed in claim 11, characterized in that the device comprises: means for generating a status signal in each of the communication controller in dependence upon parameters; means for transmitting the status signals to the other one of the communication controller via an the interface; means for comparing the states of the two communication controllers, and means for carrying out a the cold- start operation.

18. (Previously presented) A motor vehicle control comprising a device as claimed in claim 11.

19 (Currently Amended) A program storage medium ~~that is run by~~ comprising: a processor-readable storage device configured with instructions for carrying out a synchronous cold start in a time-triggered communication system that includes at least a first and second channels and at least a first and second nodes, one of which is selected as a cold-start node ~~type~~ ~~that~~ to perform a cold-start operation of the communication system responsive to a start signal

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received via the channels, the nodes each including a communication controller, wherein execution of the instructions by a processor causes the processor to perform operations including:

generating a status signal in each of the communication controllers in dependence on parameters;

transmitting each of the status signals to the other one of the communication controllers via an interface wherein the controller of the selected cold start node must listen to both channels and transmit simultaneously data for the cold start to both channels, and wherein only a single control logic within a communication controller for carrying out the cold start is available for both channels;

comparing, by each of the communication controllers, their own state with that of the other communication controller; and

performing the cold-start operation only if, and so long as, both of the communication controllers are in a ready state as indicated by the status signals.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

For independent claim 1, the prior art fails to show alone or in combination a time-triggered communication system which comprises a first and second communication controller of a first and second node respectively, wherein one of the nodes is selected as a cold start node that performs a cold start operation only when a signal from each controller indicates a ready state and wherein the controller of the selected cold start node must listen to both channels and

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transmit simultaneously data for the cold start to both channels, wherein only a single control logic within a communication controller for carrying out the cold start is available for both channels.

The prior art of Doerenberg et al. (U.S. Patent 6,467,003) teach a fault tolerant data communication network that includes a first and second communication controller of a first and second node respectively. However, Doerenberg et al. fails to teach selecting one of the nodes as a cold start node that performs a cold start only when a signal from each controller indicates a ready state and wherein the controller of the selected cold start node must listen to both channels and transmit simultaneously data for the cold start to both channels, wherein only a single control logic within a communication controller for carrying out the cold start is available for both channels.

Independent claims 7, 11, and 19 are allowable because they are similar to claim 1. Dependent claims 2-6, 8-10, and 12-18 are allowable because they depend on the allowed claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118. The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Ricky Ngo/
Supervisory Patent Examiner, Art Unit
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